ABSTRACT OF THE INVENTION

A driver device and method for pure torque voice coil motor is disclosed. The driver includes a current control device for the voice coil motor. The driver also includes a sensor to sense a coil current to the voice

5 coil motor. The driver also includes a transconductance amplifier to detect an error current from the coil current and a command current. The driver also includes an integrator to integrate the error current into the coil current. In another configuration, the driver is a driver having a current controller for the voice coil motor in a seek mode. The driver includes a set of transistors

10 coupled to the voice coil motor by a center tap. The set of transistors supply a coil current having a waveform to the center tap. The driver also includes a current sense amplifier to detect the coil current. The driver also includes a comparator to shape a command current waveform to the coil current waveform. The driver also includes a bipolar switch control to receive the

15 command current waveform and to saturate the set of transistors. In another configuration, the driver is a driver for controlling the voice coil motor during retract mode. The voice coil motor has a first coil motor and a second coil motor. The driver includes a sensor to sense a velocity voltage across the second coil motor. The driver also includes an error amplifier to calculate a

20 differential between the velocity voltage and a command voltage. The driver also includes a retract amplifier to compensate the command voltage with the differential.

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